

# : *What software companies sell data-driven DSS?*

by Dan Power

Editor, DSSResources.com

Where can I buy a data-driven DSS? or who sells DSS? are common questions that those new to computerized decision support often ask. Although a number of software companies, independent software vendors and value-added resellers market and sell data-driven DSS products, in many cases their "solution" requires additional customization. Buying a data-driven DSS is not like buying a car or an existing house. The situation is more like choosing to build a house using an existing plan, modifying an existing plan or going to an architect for a unique plan. In some cases people even choose a manufactured or prefabricated house. So who are the major data-driven DSS software vendors and how can these products be evaluated?

The big four vendors of products that can be used to build a variety of data-driven DSS are: IBM, Microsoft, Oracle and SAP. According to Weier (2008), these four companies have almost a 50% share of the global USD \$7 billion business intelligence market. Consolidation has occurred in the business intelligence/decision support software industry. IBM acquired Cognos, Oracle acquired Hyperion, SAP acquired Business Objects and Microsoft acquired ProClarity.

The big 4 vendors have a variety of software products that provide access to and analysis of historical data for business intelligence. These companies also have software for decision support tasks like performance monitoring, financial reporting and real-time operations decision support. All of these decision tasks can be supported with data-driven DSS.

Companies like Teradata, Microstrategy, SAS, Information Builders, arcPlan and Tibco also market products useful for building and implementing data-driven DSS. Open source vendors like Sun's MySQL can also be used for building data-driven DSS. Data-driven DSS applications emphasize access to and manipulation of a time-series of internal company data and sometimes external data. Simple file systems accessed by query and retrieval tools provide the most elementary level of data-driven decision support functionality. Data warehouse systems that support manipulation of data by computerized tools tailored to a specific task and setting or by more general tools provide additional functionality. Data-driven DSS with On-line Analytical Processing (OLAP), drill down, data visualization, dashboards and alerts provide

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the highest level of functionality and decision support linked to analysis of large collections of historical data. Also, some data-driven DSS use real-time data to assist in operational performance monitoring.

Independent Software Vendors (ISV) also make and sell data-driven DSS software products that build upon products of major software companies. IBM and Microsoft encourage and support ISVs and have "business partner" programs. Value-added resellers (VAR) add features to an existing commercial DSS product, then resell it as an integrated product, industry vertical product or complete "turn-key" solution. Both ISVs and VARs have data-driven DSS solutions that may be more "off-the-shelf".

Once a decision process has been analyzed and a need established for a data-driven DSS, then a "build vs. buy" decision process can begin to assess alternative ways of meeting the documented need. Loza (2002) and Oliver (2002) identify processes and issues that should be addressed in any software "build vs. buy" decision situation. The following questions should be asked as part of the decision analysis:

1) Is the business need unique? If YES, then a build approach of some type is appropriate.

2) Does an off-the-shelf product exist for this decision support task? After checking the products of the major vendors, ISVs and VARs, managers should be able to answer this question.

A consultant can sometimes reduce the cost of this analysis and improve the objectivity of the analysis.

3) Is the desired DSS interface complex and costly to develop? If the answer is YES, then more caution should be exercised in embarking on an in-house data-driven DSS development project.

4) Will it be difficult to integrate a packaged application with the existing IT infrastructure? If YES,

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then in-house development or a heavily customized application is probably necessary.

5) What is the total cost of ownership of alternative solutions? Even an off-the-shelf solution has ongoing maintenance, license and upgrade costs that need to be assessed.

Overall, an "off-the-shelf" data-driven DSS may add structure to a decision process or for special studies,

it may cost much less than building an in-house solution, it may be of higher quality and/or it may be much faster to implement and it may resolve an immediate problem. Any "off-the-shelf" solution will require some work with data quality, data models and metadata.

Oliver (2002) recommends using a commercial off-the-shelf (COTS) solution if:

- 1) COTS DSS is aligned with an organization's business and technology strategy.
- 2) COTS DSS can meet most of the core business requirements and a custom solution can accommodate unsupported core business requirements without modifying the product's software modules.
- 3) Most of a COTS DSS functionality will be used in the next three to five years.
- 4) IT staff with the proper skill sets to build a more custom system are not available.

Well, there is no single DSS product that will meet all decision support needs. In some cases, the existing database product used in a company constrains the purchase of additional data-driven DSS products, sometimes the purpose of the DSS dictates what vendors are viable,

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and in some cases, IT staff are the major constraint.

PostScript: The data-driven DSS vendors have remained stable in recent years. Microsoft has focused on small and medium sized enterprises. Teradata and SAS have been working together to provide a more seamless development environment. The open source BI vendors have gained some market share. Overall big data, mobile BI and analytics are the major initiatives in 2011.

The above response is modified from Power, D., What software companies sell data-driven DSS? DSS News, Vol. 9, No. 9, May 4, 2008.

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Author: Daniel Power

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